The list of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Previously presented) A non-crystalline oxide represented by the formula (I):

$$-(ABO_4)_x(M_nO_m)_{1-x}- \qquad (I)$$

wherein:

A is an element selected from Group IIIA of the periodic table;

B is an element selected from Group VB of the periodic table;

O is oxygen;

M is an element selected from either Group IIIB or Group IVB of the periodic table; and

n ranges from about 0.5 to about 2.5, m ranges from about 1.5 to about 3.5, and

$0 < x < 1$.

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2. (Previously presented) The oxide according to Claim 1, wherein A is aluminum (Al), B is tantalum (Ta), M is hafnium (Hf) or zirconium (Zr), n is 1, m is 2, and x is less than 0.25.

3. (Original) The oxide according to Claim 1, wherein A is aluminum (Al), B is tantalum (Ta), M is selected from yttrium (Y) or lanthanum (La), n is 2, m is 3, and x is less than 0.25.

4. (Cancelled) A method of forming a non-crystalline oxide represented by the formula (I):

$$-(ABO_4)_x(M_nO_m)_{1-x}-$$

wherein A is an element selected from Group IIIA of the periodic table, B is an element selected from Group VB of the periodic table, O is oxygen, M is an element selected from

either Group IIIB or Group IVB of the periodic table, n ranges from about 0.5 to about 2.5, m ranges from about 1.5 to about 3.5, and x is a fraction ranging from 0 to 1, said method comprising:

delivering a gaseous source comprising element A, a gaseous source comprising element B, a gaseous source comprising element M, and a gaseous source comprising oxygen on a substrate such that the gaseous source comprising element A, the gaseous source comprising element B, the gaseous source comprising element M, and the gaseous source comprising oxygen react to form the non-crystalline oxide.

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5. (Cancelled) The method according to Claim 4, wherein elements A, B, and M are present in amounts sufficient to achieve chemical stoichiometry, and wherein the gaseous source comprising oxygen contains a sufficient amount of oxygen such that the elements A, B, and M are completely oxidized.

6. (Cancelled) The method according to Claim 4, wherein the oxygen in the gaseous source comprising oxygen-containing source is selected from the group consisting of oxygen atoms, oxygen ions, oxygen metastables, oxygen molecular ions, oxygen molecular metastables, compound oxygen molecular ions, compound oxygen metastables, compound oxygen radicals, and mixtures thereof.

7. (Cancelled) The method according to Claim 4, wherein the gaseous source comprising oxygen comprises O_2 or N_2O.

8. (Cancelled) The method according to Claim 4, wherein said depositing step is a remote plasma-enhanced chemical vapor deposition occurring in a reactor, and wherein the remote-plasma-enhanced chemical vapor deposition comprises:

subjecting the gaseous source comprising oxygen to radio-frequency plasma-excitation or microwave frequency plasma-excitation, the gaseous source comprising oxygen further comprising a rare gas element;

wherein the gaseous oxygen-containing source is injected into the reactor upstream relative to the gaseous source comprising element A, the gaseous source comprising element B, and the gaseous source comprising element M.

9. (Cancelled) The method according to Claim 4, wherein A is aluminum (Al), B is tantalum (Ta), M is selected from halfnium (Hf) or zirconium (Zr), n is 1, m is 2, and x is less than 0.25.

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10. (Cancelled) The method according to Claim 4, wherein A is aluminum (Al), B is tantalum (Ta), M is selected from yttrium (Y) or lanthanum (La), n is 2, m is 3, and x is less than 0.25.

11. (Previously presented) A field effect transistor comprising:

an integrated circuit substrate having a first surface;

source and drain regions in said substrate at said first surface in a spaced apart relationship; and

a gate insulating layer on said substrate at said first surface between said spaced apart source and drain regions, said gate insulating layer comprising a non-crystalline oxide represented by the formula (I):

$$-(ABO_4)_x(M_nO_m)_{1-x}- \qquad (I)$$

wherein:

A is an element selected from Group IIIA of the periodic table;

B is an element selected from Group VB of the periodic table;

O is oxygen;

M is an element selected from either Group IIIB or Group IVB of the periodic table;

n ranges from about 0.5 to about 2.5;

m ranges from about 1.5 to about 3.5; and

$0 < x < 1$.

12. (Original) The field effect transistor according to Claim 11, wherein the substrate comprises a material selected from the group consisting of a Group III-V binary alloy, a Group III-V quaternary alloy, a Group III-nitride alloy, and combinations thereof.

13. (Original) The field effect transistor according to Claim 11, wherein the substrate comprises a Group III-V binary alloy selected from the group consisting of (Ga,Al)As, (In,Ga)As, and combinations thereof.

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14. (Previously presented) The field effect transistor according to Claim 11, wherein A is aluminum (Al), B is tantalum (Ta), M is hafnium (Hf) or zirconium (Zr), n is 1, m is 2, and x is less than 0.25.

15. (Original) The field effect transistor according to Claim 11, wherein A is aluminum (Al), B is tantalum (Ta), M is selected from yttrium (Y) or lanthanum (La), n is 2, m is 3, and x is less than 0.25.

16. (Original) A microelectronic device comprising a non-crystalline oxide according to Claim 1.

17. (Original) The microelectronic device according to Claim 16, wherein said microelectronic device comprises a base layer and an interfacial layer positioned thereon.

18. (Original) The microelectronic device according to Claim 17, wherein the non-crystalline oxide represented by formula (I) is present in said interfacial layer.

19. (Original) The microelectronic device according to Claim 17, wherein the non-crystalline oxide represented by formula (I) is present in the base layer.

20. (Original) The microelectronic device according to Claim 17, wherein the base

layer comprises an oxide of the formula (III):

$$D(AlO_2)_z \qquad \text{(III)}$$

wherein D is Group IIIB or IVB oxide and z is 3 or 4.

21. (Original) The microelectronic device according to Claim 20, wherein the oxide of the formula (III) is selected from the group consisting of $Hf(AlO_2)_4$, $Y(AlO_2)_3$, and combinations thereof.

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22. (Original) An article of manufacture comprising the non-crystalline oxide represented by formula (I) according to Claim 1.

23. (Original) The article of manufacture according to Claim 22, wherein the article of manufacture is selected from the group consisting of photoconductors, photodiodes, light-emitting diodes, lasers, sensors, micro-mechanical (MEMS) devices, and devices with metal electrodes, articles used in sensor applications, and articles used in catalysis applications.

24. (Previously presented) A non-crystalline oxide represented by the formula (II):

$$(Al_2O_3)_j(M_nO_m)_k \qquad \text{(II)}$$

wherein:

Al is aluminum;

O is oxygen;

M is selected from the group consisting of scandium (Sc), lanthanum (La), actinium (Ac), titanium (Ti), zirconium (Zr), hafnium (Hf), and rutherfordium (Rf); and

j ranges from about 0.5 to about 4.5; k is equal to about 1; n ranges from about 0.5 to about 2.5, and m ranges from about 1.5 to about 3.5.

25. (Previously presented) The oxide according to Claim 24, wherein M is hafnium (Hf) or zirconium (Zr), n is 1, m is 2, j is 4, and k is 1.

26. (Previously presented) The oxide according to Claim 24, wherein M is lanthanum (La), n is 2, m is 3, j is 3, and k is 1.

27. (Cancelled) A method of forming a non-crystalline oxide represented by the formula (II):

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$$-(AlO_2)_j(M_nO_m)_k- \qquad (II)$$

wherein:

Al is aluminum, O is oxygen, M is an element selected from either Group IIIB or Group IVB of the periodic table, j ranges from about 0.5 to about 4.5, k is equal to about 1, n ranges from about 0.5 to about 2.5, and m ranges from about 1.5 to about 3.5, said method comprising:

delivering a gaseous source comprising aluminum, a gaseous source comprising element M, and a gaseous source comprising oxygen on a substrate such that the gaseous source comprising aluminum, the gaseous source comprising element M, and the gaseous source comprising oxygen react to form the non-crystalline oxide.

28. (Cancelled) The method according to Claim 27, wherein elements aluminum and M are present in amounts sufficient to achieve chemical stoichiometry, and wherein the gaseous source comprising oxygen contains a sufficient amount of oxygen such that the elements aluminum and M are completely oxidized.

29. (Cancelled) A method according to Claim 27, wherein the oxygen in the gaseous source comprising oxygen-containing source is selected from the group consisting of oxygen atoms, oxygen ions, oxygen metastables, oxygen molecular ions, oxygen molecular metastables, compound oxygen molecular ions, compound oxygen metastables, compound oxygen radicals, and mixtures thereof.

30. (Cancelled) The method according to Claim 27, wherein the gaseous source

comprising oxygen comprises O_2 or N_2O.

31. (Cancelled) The method according to Claim 27, wherein said depositing step is a remote plasma-enhanced chemical vapor deposition occurring in a reactor, and wherein the remote-plasma-enhanced chemical vapor deposition comprises:

subjecting the gaseous source comprising oxygen to radio-frequency plasma-excitation or microwave frequency plasma-excitation, the gaseous source comprising oxygen further comprising a rare gas element;

wherein the gaseous oxygen-containing source is injected into the reactor upstream relative to the gaseous source comprising aluminum and the gaseous source comprising element M.

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32. (Cancelled) The method according to Claim 27, wherein M is selected from halfnium (Hf) or zirconium (Zr), n is 1, m is 2, j is 4, and k is 1.

33. (Cancelled) The method according to Claim 27, wherein M is selected from yttrium (Y) or lanthanum (La), n is 2, m is 3, j is 3, and k is 1.

34. (Previously presented) A field effect transistor comprising:

an integrated circuit substrate having a first surface;

source and drain regions in said substrate at said first surface in a spaced apart relationship; and

a gate insulating layer on said substrate at said first surface between said spaced apart source and drain regions, said gate insulating layer comprising a non-crystalline oxide represented by the formula (II):

$$(Al_2O_3)_j(M_nO_m)_k \qquad \text{(II)}$$

wherein:

Al is aluminum, O is oxygen, M is selected from the group consisting of scandium (Sc), lanthanum (La), actinium (Ac), titanium (Ti), zirconium (Zr), hafnium (Hf), and

rutherfordium (Rf), j ranges from about 0.5 to about 4.5, k is equal to about 1, n ranges from about 0.5 to about 2.5, and m ranges from about 1.5 to about 3.5.

35. (Original) A field effect transistor according to Claim 34, wherein the substrate comprises a material selected from the group consisting of a Group III-V binary alloy, a Group III-V quaternary alloy, a Group III-nitride alloy, and combinations thereof.

36. (Original) A field effect transistor according to Claim 34, wherein the substrate comprises a Group III-V binary alloy selected from the group consisting of (Ga,Al)As, (In,Ga)As, and combinations thereof.

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37. (Previously presented) The field effect transistor according to Claim 34, wherein M is hafnium (Hf) or zirconium (Zr), n is 1, m is 2, j is 4, and k is 1.

38. (Previously presented) The field effect transistor according to Claim 34, wherein M is lanthanum (La), n is 2, m is 3, j is 3, and k is 1.

39. (Original) A microelectronic device comprising a non-crystalline oxide according to Claim 24.

40. (Original) The microelectronic device according to Claim 39, wherein said microelectronic device comprises a base layer and an interfacial layer positioned thereon.

41. (Original) The microelectronic device according to Claim 39, wherein the non-crystalline oxide represented by formula (II) is present in said interfacial layer.

42. (Original) The microelectronic device according to Claim 39, wherein the non-crystalline oxide represented by formula (II) is present in the base layer.

43. (Original) The microelectronic device according to Claim 39, wherein the base layer comprises an oxide of the formula (III):

$$D(AlO_2)_z \qquad (III)$$

wherein D is Group IIIB or IVB oxide and z is 3 or 4.

44. (Original) The microelectronic device according to Claim 43, wherein the oxide of the formula (III) is selected from the group consisting of $Hf(AlO_2)_4$, $Y(AlO_2)_3$, and combinations thereof.

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45. (Original) An article of manufacture comprising the non-crystalline oxide represented by formula (II) according to Claim 24.

46. (Original) The article of manufacture according to Claim 45, wherein the article of manufacture is selected from the group consisting of photoconductors, photodiodes, light-emitting diodes, lasers, sensors, micro-mechanical (MEMS) devices, and devices with metal electrodes, articles used in sensor applications, and articles used in catalysis applications.

47. (Previously presented A non-crystalline oxide represented by the formula $(Al_2O_3)_3(La_2O_3)$ (III).

48. (Previously presented) A field effect transistor comprising:

an integrated circuit substrate having a first surface;

source and drain regions in said substrate at said first surface in a spaced apart relationship; and

a gate insulating layer on said substrate at said first surface between said spaced apart source and drain regions, said gate insulating layer comprising a non-crystalline oxide represented by the formula (III):

$$(Al_2O_3)_3(La_2O_3).$$